

Contents

1 Routine/Function Prologues	2
1.0.1 clm2_singlegather.F90 (Source File: clm2_singlegather.F90)	2

1 Routine/Function Prologues

1.0.1 clm2_singlegather.F90 (Source File: clm2_singlegather.F90)

Gather single variable for output

REVISION HISTORY:

Apr 2003 ; Sujay Kumar, Initial Code

INTERFACE:

```
subroutine clm2_singlegather(index, var)
```

USES:

```
use lisdrv_module, only : lis
use clm_varcon, ONLY : istwet,denh2o
use clm_varpar, ONLY : nlevsoi
use clm_varder
use tile_spmdMod
use clm2pardef_module
```

CONTENTS:

```
if ( index == 1 ) then
    var_temp = clm%totfsa/float(clm%count)
elseif ( index == 2 ) then
    var_temp = -1.0*clm%toteflx_lwrad_net/float(clm%count)
elseif ( index == 3 ) then
    var_temp = clm%toteflx_lh_tot/float(clm%count)
elseif ( index == 4 ) then
    var_temp = clm%toteflx_sh_tot/float(clm%count)
elseif ( index == 5 ) then
    var_temp = clm%toteflx_soil_grnd/float(clm%count)
elseif ( index == 6 ) then
    var_temp = clm%totsnow/float(clm%count)
elseif ( index == 7 ) then
    var_temp = clm%totrain/float(clm%count)
elseif ( index == 8 ) then
    var_temp = clm%totqflx_evap/float(clm%count)
elseif ( index == 9 ) then
    var_temp = clm%totqflx_surf/float(clm%count)
elseif ( index == 10 ) then
    var_temp = clm%totqflx_drain/float(clm%count)
elseif ( index == 11 ) then
    var_temp = clm%totqflx_snomelt/float(clm%count)
elseif ( index == 14 ) then !SnowT
    do t=1,di_array(iam)
        snowtemp(t)=0.
        if ( clm(t)%istypwat /= istwet ) then
```

```

        if ( clm(t)%snl < 0 ) then
          totaldepth(t)=0.
          do i=clm(t)%snl+1,0      ! Compute total depth of snow layers
            totaldepth(t)=totaldepth(t)+clm(t)%dz(i)
          enddo
          do i=clm(t)%snl+1,0      ! Compute snow temperature
            snowtemp(t)=snowtemp(t)+(clm(t)%t_soisno(i)*clm(t)%dz(i))
          enddo
          snowtemp(t)=snowtemp(t)/totaldepth(t)
        endif
        if (snowtemp(t).eq.0)snowtemp(t)=lis%d%udef
      endif
    enddo
    var_temp = snowtemp
  elseif ( index == 15 ) then !VegT
    var_temp = clm%t_veg
  elseif ( index == 16 ) then !BareSoilT
    var_temp = clm%t_grnd
  elseif ( index == 17 ) then !AvgSurfT
    do t=1,di_array(iam)
      snowt(t) = 0.0
      if ( clm(t)%itypwat /= istwet ) then
        if ( clm(t)%snl < 0 ) then
          snowt(t) = clm(t)%t_soisno(clm(t)%snl+1)
        endif
      endif
      if ( snowt(t) == 0.0 ) then
        snowt(t) = lis%d%udef
      endif

      if ( snowt(t) /= lis%d%udef ) then
        asurft(t)=clm(t)%frac_sno*snowt(t)+ &
                    clm(t)%frac_veg_nosno*clm(t)%t_veg+  &
                    (1-(clm(t)%frac_sno+clm(t)%frac_veg_nosno))* &
                    clm(t)%t_grnd
      else
        asurft(t)=clm(t)%frac_veg_nosno*clm(t)%t_veg+ &
                    (1-clm(t)%frac_veg_nosno)*clm(t)%t_grnd
      endif
    enddo
    var_temp = asurft
  elseif ( index == 18 ) then !AvgSurfT
    var_temp = clm%t_rad
  elseif ( index == 19 ) then !Albedo
    var_temp = clm%surfalb
  elseif ( index == 20 ) then !SWE
    var_temp = clm%h2osno
  elseif ( index == 21 ) then !SoilMoist1

```

```

    var_temp = clm%h2osoi_liq(1)+clm%h2osoi_ice(1)
elseif ( index == 22 ) then !SoilMoist2
    var_temp = clm%h2osoi_liq(2)+clm%h2osoi_ice(2)
elseif ( index == 23 ) then !SoilMoist3
    var_temp = clm%h2osoi_liq(3)+clm%h2osoi_ice(3)
elseif ( index == 24 ) then !SoilMoist4
    var_temp = clm%h2osoi_liq(4)+clm%h2osoi_ice(4)
elseif ( index == 25 ) then !SoilMoist5
    var_temp = clm%h2osoi_liq(5)+clm%h2osoi_ice(5)
elseif ( index == 26 ) then !SoilMoist6
    var_temp = clm%h2osoi_liq(6)+clm%h2osoi_ice(6)
elseif ( index == 27 ) then !SoilMoist7
    var_temp = clm%h2osoi_liq(7)+clm%h2osoi_ice(7)
elseif ( index == 28 ) then !SoilMoist8
    var_temp = clm%h2osoi_liq(8)+clm%h2osoi_ice(8)
elseif ( index == 29 ) then !SoilMoist9
    var_temp = clm%h2osoi_liq(9)+clm%h2osoi_ice(9)
elseif ( index == 30 ) then !SoilMoist10
    var_temp = clm%h2osoi_liq(10)+clm%h2osoi_ice(10)
elseif ( index == 31 ) then !Soilwet
    do t=1,di_array(iam)
        swetint(t) = 0.0
        avgwatsat(t) = 0.0
        totaldepth(t) = 0.0
        do m=1,nlevsoi
            avgwatsat(t)=avgwatsat(t)+clm(t)%dz(m)*clm(t)%watsat(m)
            totaldepth(t)=totaldepth(t)+clm(t)%dz(m)
            swetint(t)=swetint(t)+clm(t)%h2osoi_liq(m)
        enddo
        avgwatsat(t) = avgwatsat(t)/totaldepth(t)
        swetint(t) = (swetint(t)/denh2o)/totaldepth(t)
        var_temp(t) = 100*swetint(t)/avgwatsat(t)
    enddo
elseif ( index == 32 ) then !TVeg
    var_temp = clm%totqflx_tran_veg/float(clm%count)
elseif ( index == 33 ) then !ESoil
    var_temp = clm%totqflx_evap_grnd/float(clm%count)
elseif ( index == 34 ) then !RootMoist
    do t=1,di_array(iam)
        soilmr(t) = 0.0
        do m=1,nlevsoi
            soilmr(t) = soilmr(t)+clm(t)%rootfr(m)*clm(t)%h2osoi_liq(m)
        enddo
    enddo
    var_temp = soilmr
elseif ( index == 35 ) then !ACond
    var_temp = clm%acond
endif

```

```
call MPI_GATHERV(var_temp(1:di_array(iam)),di_array(iam), &
MPI_REAL,var,di_array,displs,MPI_REAL, &
0,MPI_COMM_WORLD, ierr)
```